

REMARKS

Applicant acknowledges that the outstanding Office Action dated June 9, 2011 has been made final. Accordingly, the only claim amendment made herein is the substitution of the word “an” for “the” in the final line of claim 16, in order to resolve a formal issue raised in the Office Action. Applicant respectfully submits that, as amended, claim 16 is clear and definite, and that this modification does not alter the scope of the claim, or require further search or consideration by the Examiner. Accordingly, applicant respectfully requests that the foregoing amendment be entered, and that this application be further considered in view of the remarks set forth herein below.

Claims 1-12 have been rejected under 35 USC §112, first paragraph, for failing to comply with the written description requirement on the ground that there is no support in the specification for the proposition that the starter battery has an output sufficient only to provide electrical power to the components necessary to supply reactants to the fuel cell until the fuel cell itself generates electrical power. In response to this ground of rejection, applicant respectfully submits that, based on the portions of the specification set forth hereinafter, a person skilled in the art would readily recognize that the overall purpose and objective of the present invention is to limit the size of the battery which is necessary in order to effectively start a fuel cell from a sub-freezing temperature, and accordingly, with the method according to the invention, it is necessary only to provide a battery which has a capacity that is sufficient for the cited purpose, and no larger.

In particular, a person skilled in the art would draw this conclusion based on the following portions of the specification:

1) [0004] which notes that, in the conventional starting technique, the overall electrical power is very high, so that “a correspondingly large battery” is required.

2) [0005] which indicates that one objective of the invention is to provide a method of cold starting a fuel cell system “with lower battery energy requirements.”

3) [0007] which states that because the fuel cell stack itself is capable of providing a sufficient amount of power over a time period that is long enough to heat it to a temperature above zero before ice formation sets in, “Thus, a battery or other energy source is needed only for the actual starting of the fuel cell system, and the battery can be much smaller than conventionally thought, since immediately after the below-zero start-up of the fuel cell stack, the fuel cell stack will provide power.”

4) [0024] provides that a compressor 20 is started with the help of a battery, whereupon the fuel cell stack 10 commences operation, and the power generated in this manner is then used to take over the supply of power to a compressor (as well as the coolant pump and auxiliaries for operation of the heating device 24).

5) [0029] notes that the fuel cell stack itself is able to generate an output power that is sufficient to heat the stack from -15°C to $+5^{\circ}\text{C}$ “which makes it possible to use a smaller starter battery.” In particular, paragraph 20 [0029] also states that, “a starter battery that needs only to be able to start the fuel cell stack requires an output power of not more than 1.5 kW provides for less than 5 seconds”

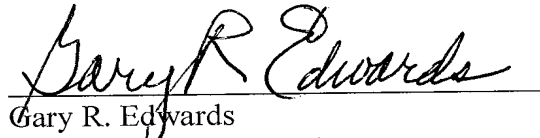
Applicants respectfully submit that in the context of the overall disclosure, the above portions would easily convey to a person skilled in the art that, with the method according to the invention, the starter battery can be dimensioned such that it is “sufficient only to supply electrical power to components necessary for the supply reactants to the fuel cell stack until the fuel cell itself generates electrical power.” Accordingly, applicant respectfully submits that the disclosure satisfies the written description requirement of 35 USC §112, first paragraph, in that it clearly conveys to such a skilled person that the applicants had possession of the invention defined in claim 1 at the time the application was filed.

Further, applicant respectfully submits that the foregoing feature of the invention, by virtue of which it is possible to utilize a smaller battery than was previously thought to be necessary, is not taught or suggested by any of the cited references. In this regard, applicant refers to and hereby incorporates by reference, the comments contained in the remarks filed with the amendment dated May 2, 2011, at pp. 6-10. In particular, applicant respectfully submits that nothing contained in any of the cited references, or any combination thereof teaches or suggests that it is possible to reduce the size of the battery used for the purpose of starting a fuel cell to such an extent that it is “sufficient only to supply electrical power to components necessary for the supply of reactants to the fuel cell stack until the fuel cell itself generates electrical power.” In regard to the latter proposition, applicant notes that claim 1 also recites that during the start-up time, the fuel cell stack is operated at an output power that is adequate to operate in the heating device and the coolant pump. Accordingly, it is clear that utilizing the method according to the invention permits the provision of a much smaller battery than previously known, and nothing in the cited prior art suggests such a technique.

In light of the foregoing remarks, this application should be in condition for allowance, and early passage of this case to issue is respectfully requested. If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket # 102063.56866US).

Respectfully submitted,

A handwritten signature in black ink, reading "Gary R. Edwards". The signature is written in a cursive style with a horizontal line underneath it.

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